

## STATEMENT OF BASIS (AI No. 167744)

for draft Louisiana Pollutant Discharge Elimination System permit No. LA0124974 to discharge to waters of the State of Louisiana.

**THE APPLICANT IS:** ZAGIS USA, LLC  
Post Office Box 3708  
Lafayette, LA 70502

**ISSUING OFFICE:** Louisiana Department of Environmental Quality (LDEQ)  
Office of Environmental Services  
Post Office Box 4313  
Baton Rouge, Louisiana 70821-4313

**PREPARED BY:** Lisa Kemp

**DATE PREPARED:** March 3, 2010

### 1. PERMIT STATUS

#### A. Reason For Permit Action:

Issuance of a Louisiana Pollutant Discharge Elimination System (LPDES) permit for a 5-year term.

#### B. LPDES permits –

LPDES permit effective date: N/A  
LPDES permit expiration date: N/A  
EPA has not retained enforcement authority.

#### C. Date Application Received: December 7, 2009; additional information was received on December 23, 2009, January 13, 2010, and March 1, 2010.

A No Exposure Certification for Exclusion from LPDES Storm Water Permitting was received on December 18, 2009.

### 2. FACILITY INFORMATION

#### A. FACILITY TYPE/ACTIVITY - cotton yarn mill

ZAGIS USA will produce cotton yarn at the Lacassine Facility. Fibers are extracted from bales of cotton to produce spools of yarn. There is no water used in the actual processing of the yarn. No dyes or chemicals are used in the process.

Yarn production from cotton requires controlling humidity and temperature within a specific window. As part of this control, a cooling tower and air wash system are used. Make-up water for the cooling tower and air wash system is provided by Jefferson Davis Water Sewer Commission #1. Estimates indicate approximately 40 gallons per minute will be used by the system. The make-up water enters the system at one of two points. During periods where the air temperature is within the tolerance for yarn production, the make-up water will be brought directly into the air wash system. If the air temperature is above the tolerance for yarn production, the make up water will be introduced into the cooling tower. Water in the cooling tower/air wash system will be treated with microbiocides and a corrosion inhibitor.

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Used oil and grease generated through maintenance of operation equipment will be managed by a recycling facility. Solid waste will be managed at a properly permitted disposal facility. Sanitary wastewater is treated by a mechanical system with spray irrigation. According to the application, sanitary wastewater does not discharge to surface waters.

**B. FEE RATE**

1. Fee Rating Facility Type: minor
2. Complexity Type: II (complexity points BPJ'd to 0 due to low flow volume and because no process water is discharged)
3. Wastewater Type: III
4. SIC code: 2281, 2282

**C. LOCATION** - 21095 South Frontage Road, Lacassine, Jefferson Davis Parish  
 Latitude 30° 14' 46", Longitude 92° 57' 01"

**3. OUTFALL INFORMATION**

Outfall 001

Discharge Type: cooling tower blowdown and air wash system wastewater  
 Treatment: scavenging treatment chemical  
 Location: at the point of discharge from the southeast corner of the facility prior to combining with other waters  
 (Latitude 30° 14' 27", Longitude 92° 57' 03")  
 Flow: 5,760 gpd  
 Discharge Route: local drainage to unnamed tributary, thence to West Bayou Lacassine

**4. RECEIVING WATERS**

STREAM - local drainage to unnamed tributary, thence to West Bayou Lacassine

BASIN AND SEGMENT - Mermentau River Basin, Segment 050601

DESIGNATED USES - a. primary contact recreation  
 b. secondary contact recreation  
 c. propagation of fish and wildlife  
 f. agriculture

**5. TMDL STATUS**

Subsegment 050601, Lacassine Bayou - from headwaters to Grand Lake, is not listed on LDEQ's Final 2006 303(d) list as impaired for dissolved oxygen (DO) because the Bayou Lacassine Oxygen Demand TMDL was finalized on September 2, 2003. An impairment for Mercury is listed, but it will not be addressed because this impairment applies only to those waterbodies specifically identified in the integrated report and not to the subsegment unless so specified. Since the discharges from this facility flow into a tributary of the named waterbody, requirements for Mercury will not be included in the permit. The Department of Environmental Quality reserves the right to impose more stringent discharge limitations and/or additional restrictions in the future to maintain the water quality integrity and the designated uses of the receiving water bodies based upon additional TMDL's and/or water quality studies.

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The DEQ also reserves the right to modify or revoke and reissue this permit based upon any changes to established TMDL's for this discharge, or to accommodate for pollutant trading provisions in approved TMDL watersheds as necessary to achieve compliance with water quality standards.

The following TMDL's have been established for subsegment 050601:

The revised *Bayou Lacassine Watershed TMDL for Dissolved Oxygen Including WLAs for Two Point Source Discharges* was finalized on September 2, 2003. According to the report, the minimum DO was achieved with no reductions in either the point source discharge or the manmade nonpoint source loadings in West Bayou Lacassine.

## 6. CHANGES FROM PREVIOUS PERMIT

N/A – this is a first time permit issuance.

## 7. COMPLIANCE HISTORY/COMMENTS

- A. OEC – There are no open, appealed, or pending OEC enforcement actions as of March 3, 2010.
- B. DMR Review/Excursions – There are no DMR's for this facility, as this is the initial issuance of an LPDES permit.
- C. Inspections – There are no compliance inspections as this is the initial issuance of an LPDES permit. A facility site visit was conducted on November 19, 2009 (EDMS document #44320268) by the Surveillance Division to discuss facility operations and environmental permitting concerns.

Please be aware that the Department has the authority to reduce monitoring frequencies when a permittee demonstrates two or more consecutive years of permit compliance. Monitoring frequencies established in LPDES permits are based on a number of factors, including but not limited to, the size of the discharge, the type of wastewater being discharged, the specific operations at the facility, past compliance history, similar facilities and best professional judgment of the reviewer. We encourage and invite each permittee to institute positive measures to ensure continued compliance with the LPDES permit, thereby qualifying for reduced monitoring frequencies upon permit reissuance. If the Department can be of any assistance in this area, please do not hesitate to contact us. As a reminder, the Department will also consider an increase in monitoring frequency upon permit reissuance when the permittee demonstrates continued non-compliance.

## 8. EXISTING EFFLUENT LIMITS

N/A – there is no previous permit.

## 9. ENDANGERED SPECIES

The receiving waterbody, Subsegment 050601 of the Mermentau River Basin is not listed in Section II.2 of the Implementation Strategy as requiring consultation with the U.S. Fish and Wildlife Service (FWS). This strategy was submitted with a letter dated January 5, 2010 from Rieck (FWS) to Nolan (LDEQ). Therefore, in accordance with the Memorandum of

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Understanding between the LDEQ and the FWS, no further informal (Section 7, Endangered Species Act) consultation is required. The effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat. Therefore, the issuance of the LPDES permit is not likely to have an adverse effect on any endangered or candidate species or the critical habitat.

#### **10. HISTORIC SITES**

The discharge is from an existing facility location, which does not include an expansion on undisturbed soils. Therefore, there should be no potential effect to sites or properties on or eligible for listing on the National Register of Historic Places, and in accordance with the "Memorandum of Understanding for the Protection of Historic Properties in Louisiana Regarding LPDES Permits" no consultation with the Louisiana State Historic Preservation Officer is required.

#### **11. TENTATIVE DETERMINATION**

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to issue a permit for the discharge described in the application.

#### **12. PUBLIC NOTICES**

Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the draft permit and may request a public hearing to clarify issues involved in the permit decision at this Office's address on the first page of the statement of basis. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

Public notice published in:

Local newspaper of general circulation

Office of Environmental Services Public Notice Mailing List

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### Rationale for ZAGIS USA,LLC

1. **Outfall 001** - cooling tower blowdown and air wash system wastewater (estimated flow is 5760 gpd)

Pollutant	Limitation		Reference
	Monthly Avg	Daily Max	
	mg/L (unless stated)		
Flow	Report	Report	
TOC	---	50	Similar discharges*, LAG480000 (Schedule C) (BPJ)
Oil and Grease	---	15	Similar discharges*, LAG480000 (Schedule C) (BPJ)
Temperature (*1)	---	Report (*2)	Similar discharges*, LAG480000 (Schedule F) (BPJ)
Total Residual Chlorine (TRC) (*3)	---	0.2	Similar discharges*, LAG480000 (Schedule F) (BPJ)
Biomonitoring Requirement (see Biomonitoring Requirement below) (*4)		Report (see Biomonitoring Requirement below)	BPJ
pH, s.u.	6.0 (min)	9.0 (max)	Similar discharges*, LAG480000 (BPJ)

- (\*1) The temperature at the edge of the mixing zone shall not exceed 32.2°C (90°F). This condition does not apply to privately owned reservoirs or to reservoirs constructed solely for industrial cooling purposes.
- (\*2) Instantaneous maximum.
- (\*3) Limitation and monitoring for TRC are required only if chlorine or a chlorine compound is used as treatment.
- (\*4) Biomonitoring shall be conducted during periods of biocide(s) usage (CL49 and CL2156) or other potentially toxic substances being discharged.

**Treatment:** scavenging treatment chemical

**Monitoring Frequency:** 1/quarter at the point of discharge from the southeast corner of the facility prior to mixing with other waters based on current guidance for similar discharges from other facilities.

**Limits Justification:** TOC, oil and grease, temperature, TRC, and pH limitations are based on current guidance for similar discharges from other facilities and the Light Commercial General Permit, LAG480000 effective August 1, 2001.

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This facility is not subject to Effluent Limitations Guidelines for the Textile Mills Point Source Category, 40 CFR Part 410, because no process wastewater is discharged.

\* Existing permits for similar outfalls

su Standard Units

#### NOTE

For outfalls containing concentration limits, the usage of concentration limits is based on BPJ for similar outfalls since the flow is variable and estimated.

#### Biomonitoring Requirement

This facility uses two biocides (CL49 and CL2156) in their air wash system and cooling tower that may pose a threat to aquatic life in the receiving stream. Therefore, LDEQ recommends incorporating a 48-hour biomonitoring test as a requirement for Outfall 001.

If this test shows no evidence of toxicity, there shall be no further biomonitoring requirements for issuance of LA0124974.

If toxicity is demonstrated, the facility shall biomonitor annually for the term of the permit. The effluent dilution series shall be 0% and 100% concentrations, with 100% being the defined critical biomonitoring dilution (the 10:1 Acute-to Chronic ratio has been implemented). The biomonitoring frequency shall be once per year for *Daphnia pulex* and *Pimephales promelas*.

See Biomonitoring Recommendation, Appendix A.

#### **STORM WATER POLLUTION PREVENTION PLAN (SWP3) REQUIREMENT**

In accordance with LAC 33:IX.2511.A.1, storm water discharges shall not be required to obtain an LPDES permit "... except... discharges associated with industrial activity." In accordance with LAC 33:IX.2511.B.14.a-k, facilities classified as SIC codes 2281 and 2282 are considered to have storm water discharges associated with industrial activity. However, a No Exposure Certification for Exclusion from LPDES Storm Water Permitting was received on December 18, 2009 (EDMS document # 44760519). Therefore, Stormwater Pollution Prevention Plan requirements are not included in the permit.

Appendix A  
Biomonitoring  
Recommendation

## FRESHWATER ACUTE

# BIOMONITORING FREQUENCY RECOMMENDATION AND RATIONALE FOR ADDITIONAL REQUIREMENTS

Permit Number: **LA0124974**  
 Facility Name: **Zagis USA, LLC**  
 Previous Critical Dilution: **N/A – Initial permit**  
 Proposed Critical Dilution: **100% (10:1 ACR)**  
 Date of Review: **3/02/10**  
 Name of Reviewer: **Laura Thompson**

## Recommended Frequency by Species:

### Option 1:

*Pimephales promelas* (Fathead minnow): **Once<sup>1</sup>**  
*Daphnia pulex* (water flea): **Once<sup>1</sup>**

### Option 2:

*Pimephales promelas* (Fathead minnow): **Once/Year<sup>2</sup>**  
*Daphnia pulex* (water flea): **Once/Year<sup>2</sup>**

Recommended Dilution Series: **0% and 100%**

## Number of Tests Performed during previous 5 years by Species:

*Pimephales promelas* (Fathead minnow): **N/A – Initial permit; no previous tests performed**  
*Daphnia pulex* (water flea): **N/A – Initial permit; no previous tests performed**  
*Ceriodaphnia dubia* (water flea): **N/A – Initial permit; no previous tests performed**

## Number of Failed Tests during previous 5 years by Species:

*Pimephales promelas* (Fathead minnow): **N/A – Initial permit; no previous tests performed**  
*Daphnia pulex* (water flea): **N/A – Initial permit; no previous tests performed**  
*Ceriodaphnia dubia* (water flea): **N/A – Initial permit; no previous tests performed**

<sup>1</sup> This facility uses two biocides (CL49 and CL2156) in their air wash system and cooling tower that may pose a threat to aquatic life in the receiving stream. Therefore, LDEQ recommends incorporating a 48-hour biomonitoring test as a requirement on Outfall 001. If this test results show no evidence of toxicity (i.e. a finding of NOEC = 100%), there shall be no further biomonitoring requirements for the issuance of LA0124974.

<sup>2</sup> If toxicity is demonstrated (NOEC < 100%), the facility shall biomonitor annually for the term of the permit. Biomonitoring shall be conducted during periods of biocide(s) usage (CL49 and CL2156) or other potentially toxic substances being discharged



## FRESHWATER ACUTE

Failed Test Dates during previous 5 years by Species:

*Pimephales promelas* (Fathead minnow): N/A – Initial permit; no previous tests performed  
*Daphnia pulex* (water flea): N/A – Initial permit; no previous tests performed  
*Ceriodaphnia dubia* (water flea): N/A – Initial permit; no previous tests performed

Previous TRE Activities: N/A – Initial permit; no previous information

Additional Requirements (including WET Limits) Rationale / Comments Concerning Permitting:

Zagis USA, LLC is a yarn manufacturing facility in Lacassine, Jefferson Davis Parish, Louisiana. LPDES Permit LA0124974 is an initial permit.

This facility uses two biocides (CL49 and CL2156) in their air wash system and cooling tower that may pose a threat to aquatic life in the receiving stream. An email from Jay DeLouche (attorney for the facility) on March 1, 2010 states the following:

*In order to satisfy LDEQ that the toxicity of the effluent stream is eliminated by the addition of the sodium bisulfide [which will be injected into the effluent stream in a manner to ensure mixing and at concentrations sufficient to reduce/eliminate the toxicity of the stream by oxidizing any remaining concentrations of CL49 and CL2156 in the effluent], Zagis proposes to perform a 48 hour acute biomonitoring test (as previously recommended by LDEQ's additive group). The test will be performed on a water/treatment chemical mixture that reflects the totality of chemicals that will be used to treat the cooling tower/air wash system (including the sodium bisulfide scavenger) at the following concentrations of the chemicals in water: 1) average treatment concentrations, 2) shock treatment concentrations (periodic increases in biocide to control growth), and 3) maximum concentrations (a percentage of chemical concentrations above what would ever be expected in the system). In short, the lab will mix the pre-determined concentrations of treatment chemicals in water and add the recommended concentrations of scavenging chemical together, then introduce the appropriate biological organisms to measure fecundity, mortality, etc. as required by the 48 hour test."*

If the above mentioned test results show no evidence of toxicity, there shall be no further biomonitoring requirements for the issuance of LA0124974.

If there is toxicity present in this test, LDEQ recommends that freshwater acute biomonitoring be an effluent characteristic of Outfall 00 (discharge of 0.00576 mgd of cooling tower blowdown and air wash system wastewater) in LA0124974. The effluent dilution series shall be 0% and 100% concentrations, with 100% being the defined critical biomonitoring dilution (the 10:1 Acute-to-Chronic ratio has been implemented). The biomonitoring frequency shall be once per year for *Daphnia pulex* and *Pimephales promelas*.

## MEMORANDUM

TO: Lisa Kemp

FROM: Todd Franklin

DATE: December 18, 2009

RE: Stream Flow and Water Quality Characteristics for an unnamed tributary of West Bayou Lacassine, receiving waters for Zagis USA, LLC (AI 167744)

The discharge from Outfall 001 flows into a parish drainage ditch; thence into an unnamed tributary; thence into West Bayou Lacassine. Ambient data for hardness and TSS was taken from random monitoring stations #2230 (West Bayou Lacassine at the bridge on Parish Road, 1.5 miles west of LA Highway 99 and 3.5 miles north of Welsh), #2221 (East Bayou Lacassine at the bridge on LA Highway 99, 1.5 miles north of Welsh), and #2429 (East Fork Bayou Lacassine tributary at the bridge on US Highway 90 in Welsh). The following results were obtained based on ten separate samples:

Average hardness = 64.8 mg/l  
15<sup>th</sup> percentile TSS = 22.35 mg/l

Outfall 001 discharges near the headwaters of a tributary of West Bayou Lacassine. Therefore, the only significant contribution of flow at the discharge point would be storm water. Therefore, the default 7Q10 and harmonic mean flow of 0.1 cfs and 1.0 cfs, respectively, shall be used for permit limitation calculations. The default values are in accordance with the *Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, Water Quality Management Plan, Volume 3*.

If you have additional questions or comments, please contact me at 2-3138.